

WHAT IS CLAIMED IS:

1. An inverter capacitor module comprising:  
a plurality of substrates including:

a plurality of ceramic capacitors provided on the top surfaces of the plurality of substrates; and

first and second feeding unit lands having conductive films and arranged on both surfaces of the substrates so as to feed said plurality of ceramic capacitors, the first and second feeding unit lands disposed on both surfaces of the substrates being electrically connected to each other;

a conductive spacer inserted between said plurality of substrates for establishing one of an electrical connection between the first feeding unit lands of an underlying one of the substrates and an overlying one of the substrates, and an electrical connection between the second feeding unit lands of an underlying one of the substrates and an overlying one of the substrates;

a fixing element arranged to fix said plurality of substrates laminated via said conductive spacer; and

a switching module that is fixed below the bottom substrate among said plurality of substrates that are laminated;

wherein said switching module is fixed to said

plurality of substrates by said fixing element.

2. An inverter capacitor module according to Claim 1, wherein said plurality of ceramic capacitors each includes first and second terminals and the first terminal is electrically connected to the first feeding unit land and the second terminal is electrically connected to the second feeding unit land.

3. An inverter capacitor module according to Claim 2, wherein said plurality of substrates each includes a printed-circuit board and first and second through-hole electrodes arranged to establish electrical connections between the first feeding unit lands on both surfaces of each of said plurality of substrates and between the second feeding unit lands on both surfaces of each of said plurality of substrates, respectively.

4. An inverter capacitor module according to Claim 1, further comprising:

a projecting unit arranged to upwardly project from the top surface or downwardly project from the bottom surface of said conductive spacer and including a male screw disposed on the outer periphery thereof;

a hole including a female thread capable of being

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engaged with said male screw in the inner periphery thereof and provided in the bottom surface or the top surface of said conductive spacer; and

a plurality of conductive spacers are fastened via said male screw and said female thread provided in said hole.

5. An inverter capacitor module according to Claim 1, wherein said plurality of ceramic capacitors each includes first and second lead terminals each having different polarities and including a plurality of metal-tongue pieces.

6. An inverter capacitor module according to Claim 1, wherein an insulating coating is disposed on a surface of the conductive film of the first feeding unit.

7. An inverter capacitor module according to Claim 1, wherein an insulating coating is disposed on a surface of the conductive film of the second feeding unit.

8. An inverter capacitor module according to Claim 1, wherein the conductive films of the first and second feeding units are arranged to occupy substantially the entire area of both surfaces of each of the respective substrates on which the conductive films are disposed.

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9. An inverter capacitor module according to Claim 1, wherein the fixing element includes a plurality of bolts.

10. An inverter capacitor module according to Claim 9, wherein the fixing element further includes a plurality of through holes formed in the plurality of substrates and arranged to receive the plurality of bolts.

11. An inverter comprising:

an inverter capacitor module including:

a plurality of substrates having:

a plurality of ceramic capacitors provided on the top surfaces of the plurality of substrates; and

first and second feeding unit lands having conductive films and arranged on both surfaces of the substrates so as to feed said plurality of ceramic capacitors, the first and second feeding unit lands disposed on both surfaces of the substrates being electrically connected to each other;

a conductive spacer inserted between said plurality of substrates for establishing one of an electrical connection between the first feeding unit lands of an underlying one of the substrates and an overlying one of the substrates, and an electrical connection between the second feeding unit lands of an underlying one of the substrates

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and an overlying one of the substrates;

a fixing element arranged to fix said plurality of substrates laminated via said conductive spacer; and

a switching module that is fixed below the bottom substrate among said plurality of substrates that are laminated;

wherein said switching module is fixed to said plurality of substrates by said fixing element; and

a switching module mounted on the bottom surface side of the bottom layer substrate of said capacitor module.

12. An inverter according to Claim 11, wherein said plurality of ceramic capacitors each includes first and second terminals and the first terminal is electrically connected to the first feeding unit land and the second terminal is electrically connected to the second feeding unit land.

13. An inverter according to Claim 12, wherein said plurality of substrates each includes a printed-circuit board and first and second through-hole electrodes arranged to establish electrical connections between the first feeding unit lands on both surfaces of each of said plurality of substrates and between the second feeding unit lands on both surfaces of each of said plurality of

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substrates, respectively.

14. An inverter according to Claim 11, further comprising:

a projecting unit arranged to upwardly project from the top surface or downwardly project from the bottom surface of said conductive spacer and including a male screw disposed on the outer periphery thereof;

a hole including a female thread capable of being engaged with said male screw in the inner periphery thereof and provided in the bottom surface or the top surface of said conductive spacer; and

a plurality of conductive spacers are fastened via said male screw and said female thread provided in said hole.

15. An inverter according to Claim 11, wherein said plurality of ceramic capacitors each includes first and second lead terminals each having different polarities and including a plurality of metal-tongue pieces.

16. An inverter according to Claim 11, wherein an insulating coating is disposed on a surface of the conductive film of the first feeding unit.

17. An inverter according to Claim 11, wherein an

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insulating coating is disposed on a surface of the conductive film of the second feeding unit.

18. An inverter according to Claim 11, wherein the conductive films of the first and second feeding units are arranged to occupy substantially the entire area of both surfaces of each of the respective substrates on which the conductive films are disposed.

19. An inverter according to Claim 11, wherein the fixing element includes a plurality of bolts.

20. An inverter according to Claim 19, wherein the fixing element further includes a plurality of through holes formed in the plurality of substrates and arranged to receive the plurality of bolts.

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